

Motorola

AUTO RADIO

MODELS

395
395-12

S E R V I C E M A N U A L

GENERAL INFORMATION

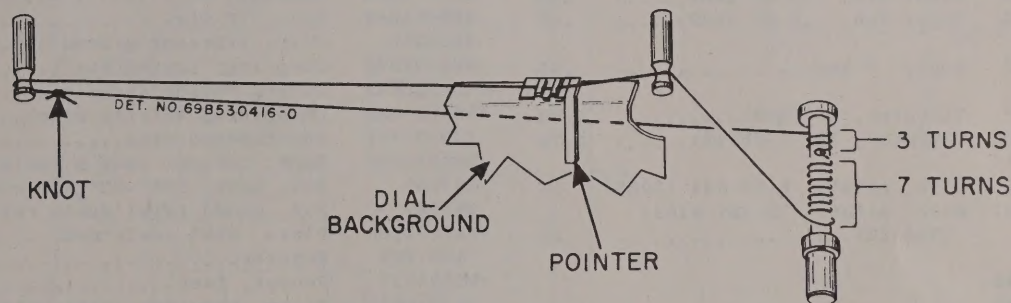
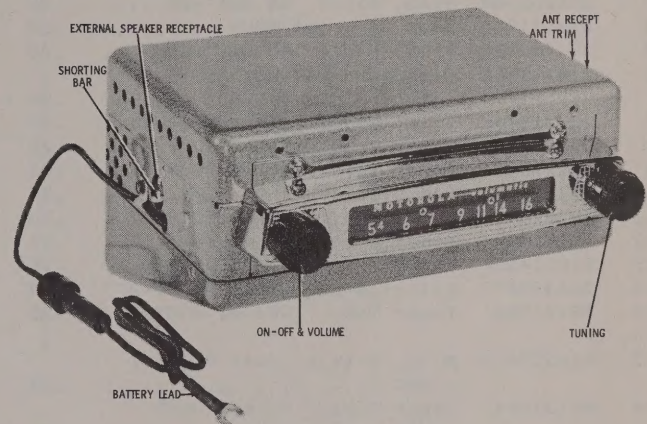
TYPE - Universal automotive type superheterodyne receiver with self-contained speaker. Designed for under-dash mounting. Receiver may be mounted behind instrument panel of some cars by using Trim Plate AK-38. Model 395 for 6 volt cars only; Model 395-12 for 12 volt cars only.

TUNING RANGE - 540 - 1605 Kc **IF** - 455 Kc

TUBE COMPLEMENT

Model 395: 6BD6 RF amp; 6BE6 conv; 6BD6 IF amp; 6CR6 Det-AVC-1st AF amp; 6AQ5 pwr amp; 6X4 rect.

Model 395-12: 12BD6 RF amp; 12BE6 conv; 12BD6 IF amp; 12CR6 Det-AVC-1st AF amp; 12AQ5 pwr amp; 12X4 rect.



DIAL RESTRINGING DETAIL

MOTOROLA AUTO RADIO WARRANTY SERVICE STATION PROCEDURE FOR BRANDED MODELS

1. The definition of a Motorola Branded Model is one that is branded with the Motorola name, and distributed to dealers through authorized Motorola Distributors.

2. Before performing a warranty repair on a Motorola Branded Auto Radio, you must first receive from the customer the Customer's Warranty Policy. This policy must be filled out by the selling dealer at the time of retail purchase. The Customer's Warranty Policy must show the radio to be within the ninety day warranty period if the repair is to be handled under the Motorola Auto Radio Warranty Plan.

3. The removal or reinstallation of the radio, the elimination of motor noise, tire static, electrical interference, or faulty installation and aerial repairs are not considered as warranty repairs. Consequently, charges for these services are to be borne by the customer.

4. Fill in the Motorola Auto Radio Warranty Labor Claim, Part No. 54P480884, and mail White and Green copies to the Motorola Distributor serving your area. The Yellow copy is to be retained by the Warranty Service Station for his files.

5. Defective parts for warranty repairs made on Motorola Branded Auto Radios are to be sent to your Motorola Distributor for free replacement, supported with the defective parts return form which you are now using.

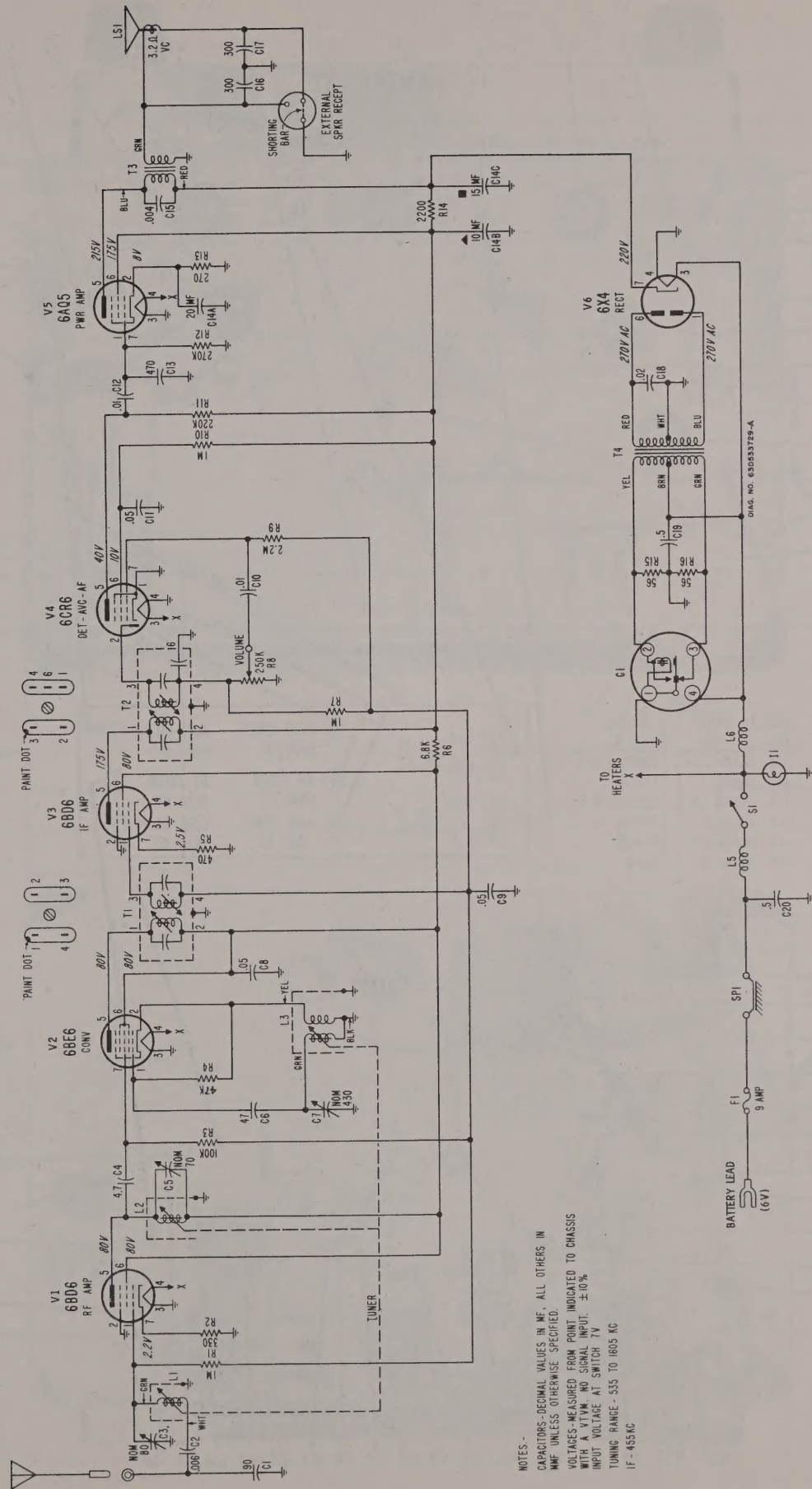
6. Only those service shops authorized by their Motorola Distributor can perform repairs within the warranty period on a no-charge basis to the customer. If you are not already authorized as a Motorola Auto Radio Warranty Service Station, and you are interested in handling this service, please contact your Motorola Distributor for complete details.

MOTOROLA, INC. 4545 AUGUSTA BLVD. CHICAGO 51, ILLINOIS

REPLACEMENT PARTS LIST

NOTE: When ordering parts, specify model number of set in addition to part number and description of part.

Ref. No.	Part Number	Description	List Price	Ref. No.	Part Number	Description	List Price
ELECTRICAL PARTS				R-12	6R6414	270,000 10% 1/2W.....	.15
Capacitors (Cer = Ceramic; Tub = Tubular; Mld = Molded; Lytic = Electrolytic)				R-13	6R6432	270 10% 1/2W.....	.15
C-1	21A591682	Mica, metal: 90 mmf.....	.20	R-14	6R476130	2200 20% 2W.....	.25
C-2	8R121001	Paper Tub: .006 mf 400V....	.25	R-15	6R2037	56 10% 1W (395).....	.20
C-3	20A502338	Trim, mica: 80 mmf nom.....	.45		6R6389	220 10% 1W (395-12).....	.20
C-4	21R115955	Mld: 4.7 mmf 500V.....	.25	R-16	6R2037	56 10% 1W (395).....	.20
C-5	20A481526	Trim, mica: 70 mmf nom.....	.30		6R6389	220 10% 1W (395-12).....	.20
C-6	21R115593	Cer Disc: 47 mmf 500V		SP-1	64K532087	Spark Plate.....	.05
		NTC 750 PPM.....	.25	T-1	24C485553	Trans, 1st IF: 455 Kc.....	1.45
C-7	20A485708	Trim, mica: 430 mmf nom....	.55	T-2	24K485554	Trans, 2nd IF: 455 Kc.....	1.55
C-8	8R121567	Paper Tub: .05 mf 400V....	.25	T-3	25B70171	Trans, output.....	2.05
C-9	8R121005	Paper Tub: .05 mf 200V....	.25	T-4	25C501303	Trans, power (395).....	4.45
C-10	21R482726	Cer Disc: .01 mf 500V.....	.35		25C521841	Trans, power (395-12).....	5.10
C-11	8R121567	Paper Tub: .05 mf 400V....	.25				
C-12	8R121002	Paper Tub: .01 mf 400V....	.25	Part Number	Description	List Price	
C-13	21R114554	Cer Disc: 470 mmf 500V....	.25	MECHANICAL PARTS			
C-14	23A485677	Lytic:10-15-20mf/350-350-25V	2.25	*28A533474	Bar, shorting (spkr socket).....	.03	
C-15	8R121000	Paper Tub: .004 mf 600V....	.25	*7K502387	Bracket, dial background.....	.45	
C-16,				43A501295	Bushing, mtg.....	.20	
17	21A522033	Mica, metal: dual 300 mmf		42B485548	Clip, IF mtg.....	.01	
		500V.....	.25	42A4215	Clip, vibrator ground.....	.10	
C-18	8R121004	Paper Tub: .02 mf 1000V		58A501296	Coupling, tuning shaft.....	.20	
		(395).....	.30	*15K533049	Cover, bottom (tube side).....	2.75	
	8A121549	Paper Tub: .04 mf 1000V		*15K533053	Cover, top (wiring side).....	1.95	
		(395-12).....	.35	13D521747	Escutcheon, dial.....	2.25	
C-19	8K121666	Paper Tub: .5 mf 100V.....	.45	36K510880	Knob, control (vol & tuning).....	.30	
C-20	8K121666	Paper Tub: .5 mf 100V.....	.45	2S7051	Nut, hex: 3/8"-32 (vol cont mtg).	.01	
F-1	65K16248	Fuse: 9 amp.....	.05	2S7087	Nut, speed (dial scale ret).....	.01	
G-1	48B3333	Vibrator, 6V (395).....	3.80	*64K502388	Plate, dial scale ret.....	.10	
	48B522000	Vibrator, 12V (395-12).....	4.70	1A501293	Pointer.....	.25	
I-1	65X10867	Bulb, pilot: 6-8V #44 (395)	.15	*9K533577	Recept, fuse.....	.65	
	*65T533821	Bulb, pilot: 12-18V #1891		5K501365	Rivet, shoulder (dial cord guide).	.05	
		(395-12).....	.25	*34B533826	Scale, dial.....	.25	
LS-1	50K521882			4S490733	Screw, tapping: #8-18 x 1/4"		
or	50K522339				(escutcheon mtg).....	.02	
or	50C534259	Speaker, PM: 5-1/4"; 3.2 ohm VC.....	4.20	3S7118	Setscrew (control knobs).....	.10	
L-1	24B502472	Coil, antenna.....	2.00	47B501362	Shaft, manual tuning.....	.40	
L-2	24B502473	Coil, RF.....	2.00	9A472148	Socket, antenna.....	.25	
L-3	24B502474	Coil, osc.....	2.00	9A70208	Socket, 4-prong (vib).....	.20	
L-5	24K580706	Choke, RF.....	.10	9K592354	Socket, pilot light.....	.20	
L-6	24A472535	Choke, hash (395).....	.40	*9A533475	Socket, 3 pin (spkr).....	.10	
	24A521816	Choke, hash (395-12).....	.35	9R119819	Socket, tube: 7 pin min; with dummy lug.....	.15	
Resistors - Note: All resistors are insulated carbon type unless otherwise specified				41A485380	Spring (coupling shaft).....	.01	
R-1	6R6004	1 meg 20% 1/2W.....	.15	4K501364	Washer, "C" (tuning shaft).....	.01	
R-2	6R6022	330 10% 1/2W.....	.15	MOUNTING PARTS AND ACCESSORIES			
R-3	6R6075	100,000 20% 1/2W.....	.15	7A484424	Bracket & Stud Assem.....	.10	
R-4	6R6056	47,000 20% 1/2W.....	.15	7K522056	Bracket (mtgs receiver to dash panel).....	.25	
R-5	6R6090	470 10% 1/2W.....	.15	7A72256	Bracket, receiver mtg (on rear)...	.10	
R-6	6R5690	6800 10% 2W.....	.25	8A4491	Capacitor, generator.....	.85	
R-7	6R6004	1 meg 20% 1/2W.....	.15	1V531822	Kit, mounting parts and accessories	1.75	
R-8	18B531560	Volume Control: 250,000 ohms; incl sw.....	1.05	42A485718	Strap, receiver mtg.....	.15	
R-9	6R3927	2.2 meg 20% 1/2W.....	.15	6A4141	Suppressor, distributor.....	.30	
R-10	6R6004	1 meg 20% 1/2W.....	.15				
R-11	6R6015	220,000 20% 1/2W.....	.15				



NOTES -
CAPACITORS - DECIMAL VALUES IN MF., ALL OTHERS IN MMF UNLESS OTHERWISE SPECIFIED.
VOLTAGES - MEASURED FROM POINT INDICATED TO CHASSIS WITH A VTVM, NO SIGNAL INPUT.
INPUT VOLTAGE AT SWITCH TV
TUNING RANGE - 535 TO 1605 KC
IF - 455 KC

MODEL 395 SCHEMATIC DIAGRAM

REPLACEMENT PARTS LIST

NOTE: When ordering parts, specify model number of set in addition to part number and description of part.

Ref. No.	Part Number	Description	List Price	Ref. No.	Part Number	Description	List Price
ELECTRICAL PARTS				R-12	6R6414	270,000 10% 1/2W.....	.15
Capacitors (Cer = Ceramic; Tub = Tubular; Mld = Molded; Lytic = Electrolytic)				R-13	6R6432	270 10% 1/2W.....	.15
C-1	21A591682	Mica, metal: 90 mmf.....	.20	R-14	6R476130	2200 20% 2W.....	.25
C-2	8R121001	Paper Tub: .006 mf 400V....	.25	R-15	6R2037	56 10% 1W (395).....	.20
C-3	20A502338	Trim, mica: 80 mmf nom....	.45		6R6389	220 10% 1W (395-12).....	.20
C-4	21R115955	Mld: 4.7 mmf 500V.....	.25	R-16	6R2037	56 10% 1W (395).....	.20
C-5	20A481526	Trim, mica: 70 mmf nom....	.30		6R6389	220 10% 1W (395-12).....	.20
C-6	21R115593	Cer Disc: 47 mmf 500V NTC 750 PPM.....	.25	SP-1	64K532087	Spark Plate.....	.05
C-7	20A485708	Trim, mica: 430 mmf nom....	.55	T-1	24C485553	Trans, 1st IF: 455 Kc.....	1.45
C-8	8R121567	Paper Tub: .05 mf 400V....	.25	T-2	24K485554	Trans, 2nd IF: 455 Kc.....	1.55
C-9	8R121005	Paper Tub: .05 mf 200V.....	.25	T-3	25B70171	Trans, output.....	2.05
C-10	21R482726	Cer Disc: .01 mf 500V.....	.35	T-4	25C501303	Trans, power (395).....	4.45
C-11	8R121567	Paper Tub: .05 mf 400V....	.25		25C521841	Trans, power (395-12).....	5.10
C-12	8R121002	Paper Tub: .01 mf 400V....	.25				
C-13	21R114554	Cer Disc: 470 mmf 500V.....	.25	Part Number	Description		List Price
C-14	23A485677	Lytic:10-15-20mf/350-350-25V	2.25	MECHANICAL PARTS			
C-15	8R121000	Paper Tub: .004 mf 600V....	.25	*28A533474	Bar, shorting (spkr socket).....		.03
C-16,	17	21A522033 Mica, metal: dual 300 mmf 500V.....	.25	*7K502387	Bracket, dial background.....		.45
C-18	8R121004	Paper Tub: .02 mf 1000V (395).....	.30	43A501295	Bushing, mtg.....		.20
	8A121549	Paper Tub: .04 mf 1000V (395-12).....	.35	42B485548	Clip, IF mtg.....		.01
C-19	8K121666	Paper Tub: .5 mf 100V.....	.45	42A4215	Clip, vibrator ground.....		.10
C-20	8K121666	Paper Tub: .5 mf 100V.....	.45	58A501296	Coupling, tuning shaft.....		.20
F-1	65K16248	Fuse: 9 amp.....	.05	*15K533049	Cover, bottom (tube side).....		2.75
G-1	48B3333	Vibrator, 6V (395).....	3.80	*15K533053	Cover, top (wiring side).....		1.95
	48B522000	Vibrator, 12V (395-12).....	4.70	13D521747	Escutcheon, dial.....		2.25
I-1	65X10867	Bulb, pilot: 6-8V #44 (395)	.15	36K510880	Knob, control (vol & tuning).....		.30
	*65T533821	Bulb, pilot: 12-18V #1891 (395-12).....	.25	2S7051	Nut, hex: 3/8"-32 (vol cont mtg).		.01
LS-1	50K521882	Speaker, PM: 5-1/4"; 3.2 ohm VC.....	4.20	2S7087	Nut, speed (dial scale ret).....		.01
or	50K522339			*64K502388	Plate, dial scale ret.....		.10
or	50C534259			1A501293	Pointer.....		.25
L-1	24B502472	Coil, antenna.....	2.00	*9K533577	Recept, fuse.....		.65
L-2	24B502473	Coil, RF.....	2.00	5K501365	Rivet, shoulder (dial cord guide).		.05
L-3	24B502474	Coil, osc.....	2.00	*34B533826	Scale, dial.....		.25
L-5	24K580706	Choke, RF.....	.10	4S490733	Screw, tapping: #8-18 x 1/4" (escutcheon mtg).....		.02
L-6	24A472535	Choke, hash (395).....	.40	3S7118	Setscrew (control knobs).....		.10
	24A521816	Choke, hash (395-12).....	.35	47B501362	Shaft, manual tuning.....		.40
Resistors - Note: All resistors are insulated carbon type unless otherwise specified				9A472148	Socket, antenna.....		.25
R-1	6R6004	1 meg 20% 1/2W.....	.15	9A70208	Socket, 4-prong (vib).....		.20
R-2	6R6022	330 10% 1/2W.....	.15	9K592354	Socket, pilot light.....		.20
R-3	6R6075	100,000 20% 1/2W.....	.15	*9A533475	Socket, 3 pin (spkr).....		.10
R-4	6R6056	47,000 20% 1/2W.....	.15	9R119819	Socket, tube: 7 pin min; with dummy lug.....		.15
R-5	6R6090	470 10% 1/2W.....	.15	41A485380	Spring (coupling shaft).....		.01
R-6	6R5690	6800 10% 2W.....	.25	4K501364	Washer, "C" (tuning shaft).....		.01
R-7	6R6004	1 meg 20% 1/2W.....	.15	MOUNTING PARTS AND ACCESSORIES			
R-8	18B531560	Volume Control: 250,000 ohms; incl sw.....	1.05	7A484424	Bracket & Stud Assem.....		.10
R-9	6R3927	2.2 meg 20% 1/2W.....	.15	7K522056	Bracket (mtgs receiver to dash panel).....		.25
R-10	6R6004	1 meg 20% 1/2W.....	.15	7A72256	Bracket, receiver mtg (on rear)...		.10
R-11	6R6015	220,000 20% 1/2W.....	.15	8A4491	Capacitor, generator.....		.85
				1V531822	Kit, mounting parts and accessories		1.75
				42A485718	Strap, receiver mtg.....		.15
				6A4141	Suppressor, distributor.....		.30

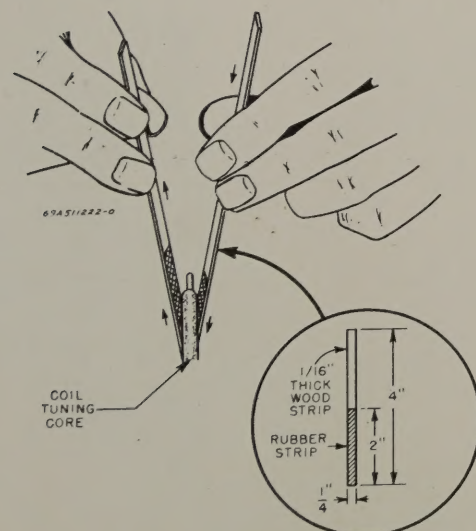
Part Number	Description	List Price	Part Number	Description	List Price
TUNER PARTS LIST (MT-127)					
(See Electrical Parts List for Electrical parts.)					
*77D532163	Tuner, complete (MT-127).....	7.90	5A502510	Grommet, mtg (ant & RF coils).....	.02
	exch	5.95	5K502516	Grommet, mtg (osc coil).....	.05
43K512769	Bushing, stop.....	.05	2A502508	Nut, tension drive.....	.05
42A502507	Clip, spring (manual shaft).....	.10	47A502509	Shaft, manual drive.....	.45
46A502505	Core, iron.....	.35	46A502506	Sleeve, iron.....	.35
5A501013	Grommet, core mtg.....	.03	26A502475	Shield, coil.....	1.25
			4K502518	Washer, fibre (manual shaft).....	.04
			*4A502517	Washer, paper (coil mtg).....	.01

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
 *New Item, Appears in any List for First Time
 **Plus Federal Excise Tax at Current Rate

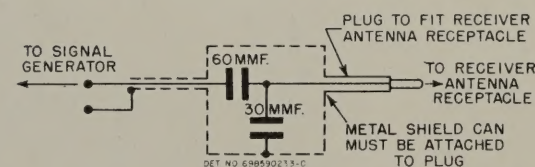
ALIGNMENT

Connect output meter across speaker voice coil. Set volume to maximum. Attenuate generator output to maintain 1.79 volts (1 watt) on output meter to prevent overloading.

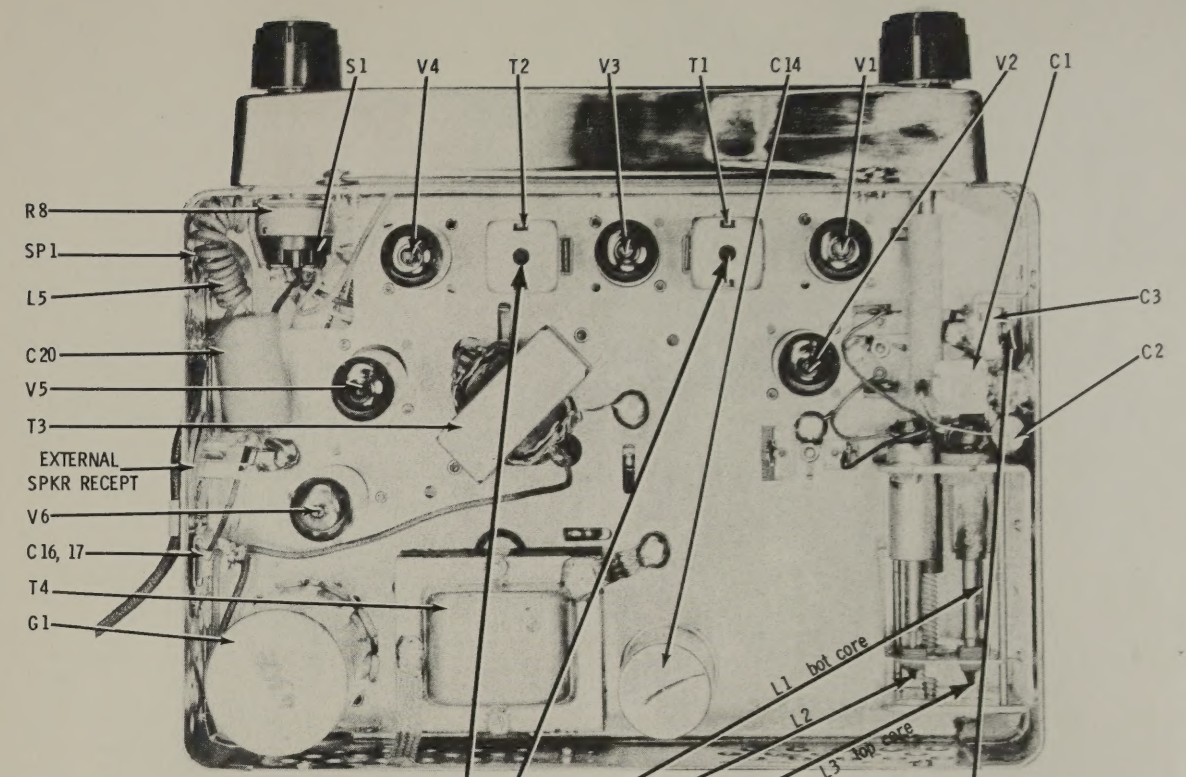
STEP	DUMMY ANTENNA	GENERATOR CONNECTION	GENERATOR FREQUENCY	TUNER SET TO	ADJUST	REMARKS
IF ALIGNMENT						
1.	.1 mf	Conv grid (pin 7) & chassis	455 Kc	Hi end stop	1, 2, 3, 4	Peak for maximum.
RF ALIGNMENT						
Note: Back tuner cores completely out of coils before proceeding. Construct core alignment tools shown below.						
2.	See Fig.	Ant recept	1610 Kc	Hi end stop	5, 6, 7	Peak for maximum.
3.	See Fig.	Ant recept	1400 Kc	29/64" from hi end stop	8, 9, 10	Peak for maximum.
4. Repeat steps 2 and 3 until no further increase, then cement tuner cores in place.						
5.	-	-	-	Weak station around 1400 Kc	7	With radio installed in car, peak ant trimmer.



CORE ALIGNMENT TOOL DETAIL

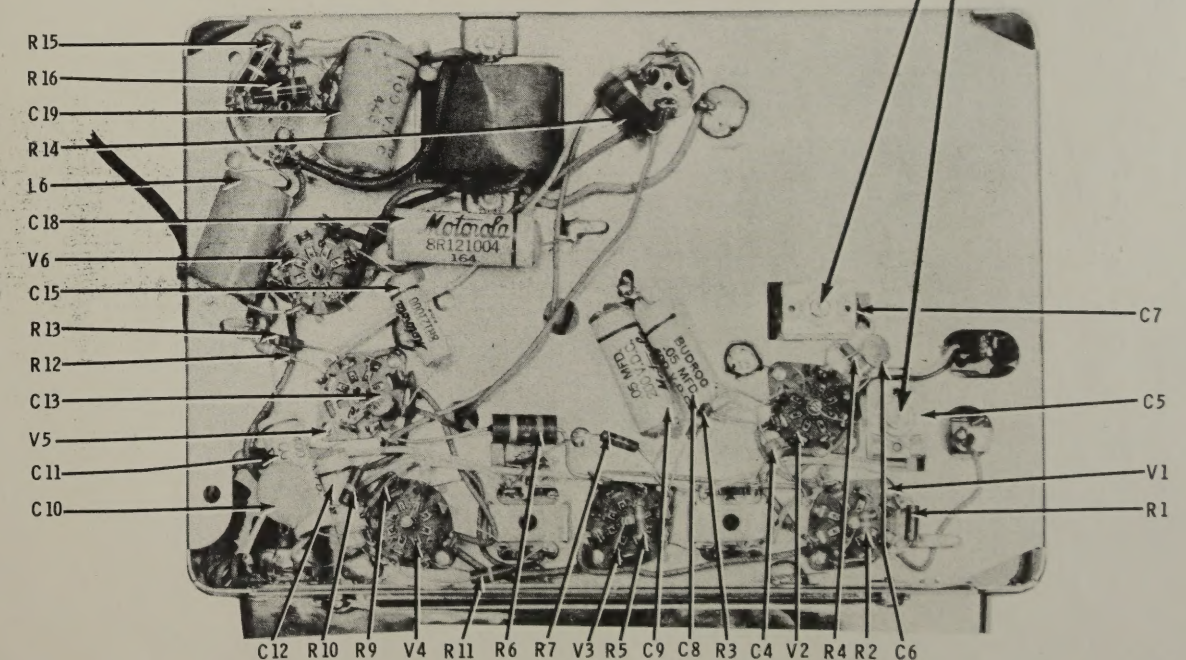


DUMMY ANTENNA DETAIL

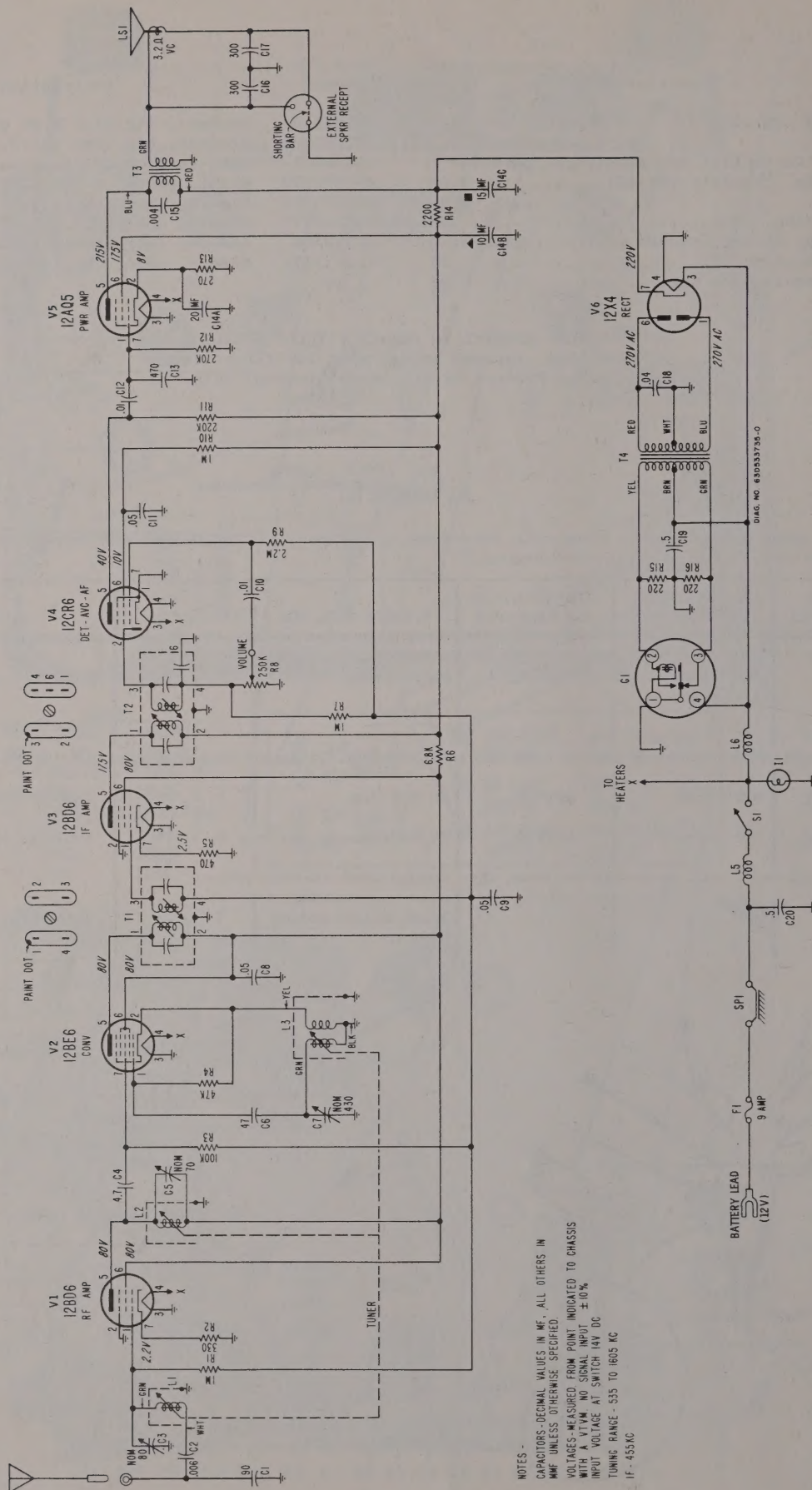


TUBES		
REF. NO.	MODEL 395	MODEL 395-12
V1	6BD6 (RF)	12BD6 (RF)
V2	6BE6	12BE6
V3	6BD6 (IF)	12BD6 (IF)
V4	6CR6	12CR6
V5	6AQ5	12AQ5
V6	6X4	12X4

④ TOP 1st IF	⑧ OSC CORE 1400 KC	⑦ ANT TRIM 1610 KC
③ BOT 455 KC	⑨ RF CORE 1400 KC	⑥ RF TRIM 1610 KC
② TOP 2nd IF	⑩ ANT CORE 1400 KC	⑤ OSC TRIM 1610 KC
① BOT 455 KC		



ALIGNMENT ADJUSTMENTS & PARTS LOCATION



NOTES -
 CAPACITORS-DECIMAL VALUES IN MF. ALL OTHERS IN
 MMF UNLESS OTHERWISE SPECIFIED
 VOLTAGES-MEASURED FROM POINT INDICATED TO CHASSIS
 WITH A VTVM NO SIGNAL INPUT
 INPUT VOLTAGE AT SWITCH 14V DC
 TUNING RANGE - 535 TO 1605 KC
 IF - 455KC

MODEL 395-12 SCHEMATIC DIAGRAM